

OPACITY MONITORING

Purpose

This Air Quality Group procedure describes the process to take opacity readings of smoke emissions as required by New Mexico Administrative Code, 20 NMAC 2.61, and as required under the LANL Operating Permit with the New Mexico Environment Department.

Scope

This procedure applies to the individuals in ESH-17 assigned to take smoke readings at the LANL co-generation plant at TA-3 building 22 or at the steam plant at TA-21 building 357 for compliance with New Mexico Administrative Code 20 NMAC 2.61. ESH-17 will be notified by JCNNM whenever a reading is to be made.

In this procedure

This procedure addresses the following major topics:

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07/12/99

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General information about this procedure

Attachments This procedure has the following attachments:

Number	Attachment Title	No. of pages
1	Visible Emission Observation Form	1

History of revision This table lists the revision history and effective dates of this procedure.

Revision	Date	Description of Changes
0	5/27/99	New document.

Who requires training to this procedure? The following personnel require training before implementing this procedure:

- Operating Permit Project Leader
- Personnel assigned to track or make smoke readings

Training method The training method for this procedure is on-the-job training by a previously-trained individual and is documented in accordance with the procedure for training (ESH-17-024).

Prerequisites In addition to training to this procedure, the following training is also required prior to performing this procedure:

- ESH-17-011, "Logbook Use and Control"
- Smoke reading class for the EPA METHOD 9 (Wrangel Method) (offered through the State of NM)

Individuals trained to the smoke reading method (EPA Method 9) must be re-certified every six months.

Hazard Control Plan The Hazard Control Plan that documents the hazards of work described in this procedure is:

- ESH-17-307, R0

This plan is on file in the ESH-17 group office.

General information, continued

**Definitions
specific to this
procedure**

None.

References

The following documents are referenced in this procedure:

- ESH-17-011, “Logbook Use and Control”
- ESH-17-024, “Personnel Training”

Note

Actions specified within this procedure, unless preceded with “should” or “may,” are to be considered mandatory guidance (i.e., “shall”).

Smoke reading

Need for smoke readings

The regulatory driver for this activity is the New Mexico Administrative Code, 20 NMAC 2.61. The need for smoke readings occurs when the plants switch from natural gas to fuel oil, when a cold startup is performed (especially if using fuel oil), during periods of malfunction, or when JCNNM conducts interlock testing of their boiler control circuits. When fuel oil is used, the boilers may not fully combust the fuel, which may result in visible smoke or other emissions.

JCNNM will normally conduct the readings and will notify ESH-17 whenever a reading is required. If JCNNM cannot conduct the reading, a trained ESH-17 member should make the reading. An adequate smoke reading by the Wrangel method cannot be done at night; thus no readings can be done after dark.

Note on diesel vehicles

LANL maintains a number of diesel-powered vehicles for construction purposes. The regulation 20 NMAC 2.61 exempts these vehicles during cold engine startup. No opacity violations have been reported during warm engine operation of these vehicles. Rather than having a program to read opacity on these vehicles, LANL has a maintenance program which follows manufacturers' recommendations to ensure that vehicles are running efficiently. Based on discussions with the NMED, if a violation of the opacity standard for these vehicles is noted, immediate vehicle maintenance would be required.

Locations for smoke readings

There are two permitted sources that may be involved:

- co-generation plant at TA-3, building 22
 - the steam plant at TA-21, building 357.
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Performing work safely

DO NOT perform work under conditions you consider unsafe. Before beginning work described in this procedure, review safety needs and requirements, identify hazards, and develop hazard mitigation measures. Be aware that facility configurations and hazards may change between visits.

Stormy weather – Reschedule or delay work activities as necessary to avoid areas experiencing severe or dangerous weather.

Recording readings

Notification of need for smoke readings This smoke reading process is initiated by a call from JCNNM/JENV advising that they will be doing interlock testing of their boiler control circuits or that they must switch fuels.

As soon as possible after notification, make contact with the plant operators to coordinate operations and the observation (if ESH-17 either needs to make the reading or wants to observe their reading).

Conduct smoke reading A strategic location must have been selected from earlier operations or chosen upon arrival at the site. The site path chosen and the observation must be in accordance with the rules of the EPA Method 9 (Wrangel Method). Use the form in Attachment 1 (Visible Emission Observation Form) to record the readings.

Recording readings Insert completed form in the logbook. Make all entries in accordance with the requirements of ESH-17-011.

Receive readings from JCNNM All readings, even those made by JCNNM, will be recorded by ESH-17. The JCNNM personnel will send the appropriate form to ESH-17. Insert this information in the logbook.

Reporting readings If the average opacity reading is over 20%, notify the Operating Permit Project Leader to report the reading to the NMED pursuant to the requirements in 20 NMAC 2.7. The report must include why it occurred and what is being done to mitigate it.

Average opacity readings under 20% do not need to be reported to the NMED.

Records resulting from this procedure

Records

The following records are generated as a result of this procedure (**NOTE:** logbooks are controlled according to requirements in ESH-17-011):

- Completed Visible Emission Observation Form in the Smoke Readers Logbook

VISIBLE EMISSION OBSERVATION FORM